CH/OCF 2.4 HOIAR 2.4
6-5-08

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10
1200 Sixth Avenue
Seattle, WA 98101

June 5, 2008

MEMORANDUM

SUBJECT: Data validation report for the Volatile Organics (VOCs), Semi-Volatile Organics (SVOCs), Organochlorine Pesticides (Pests) and Polychlorinated Biphenyls (PCBs) analyses of samples from the Harbor Oil Site Case: 37399 SDG: J8JZ1

FROM: Raymond Wu, QA Chemist
Office of Environmental Assessment 6/9/08

TO: Christopher Cora, Remedial Project Manager
Office of Environmental Cleanup

CC: Lisa Gilbert, Task Order Manager
Parametrix

The quality assurance (QA) review of two water samples collected from the above referenced site has been completed. The samples were analyzed for VOCs, SVOCs, Pesticides, and PCBs in accordance with the USEPA Contract Laboratory Program (CLP) Statement of Work (SOW) for Multi-Concentration Organic Analysis (SOM01.2) by KAP Technologies, Inc. in The Woodlands, Texas. The following sample was evaluated in this validation report:

SDG: J8JZ1

J8JZ1 J8JZ2

DATA QUALIFICATIONS

The following comments refer to the laboratory performance specification outlined in the Quality Assurance Project Plan (for Harbor Oil Superfund Site in Portland, OR) dated March, 2008, USEPA CLP SOW for Organic Analysis (SOM01.2, 05/2008), and applicable criteria set forth in the USEPA CLP National Functional Guidelines for Organic Data Review (07/2007). Note that some of the analytical data reported may be qualified based on the professional judgment of the data reviewer.

The conclusions presented herein are based on the information provided for the review. Please note some of the SVOC, all of the pesticide, and all of the PCB reporting limits were reported slightly higher than those listed in the QAPP.

Holding Time - Acceptable

The samples met the extraction, Validated Time of Sample Receipt (VTSR) and/or analytical holding time criteria for VOC, SVOC, Pesticides and PCB analyses. The samples were collected on 4/22/08; received by the laboratory on 4/28/08, and were extracted for SVOCs, Pesticides and PCBs within five days of sample receipt. The samples were analyzed for VOCs within 14 days and SVOCs, Pesticides and PCBs within 40 days of sample collection. The cooler temperature, upon the verified time of sample receipt (VTSR), was at 4.5°C. That was within the acceptable limits of 2-10 °C. None of the data was qualified on this basis.

Instrument Performance Checks - Acceptable

Three GC/MS and two GC systems were used for the sample analyses. The instruments used met the performance checks, ion abundance criteria and retention time stability checks and all of the samples were analyzed within acceptable 12-hour QC periods. None of the data were qualified on this basis.

Initial Calibrations (ICAL)

- The frequency of analysis of ICALs for each analytical fraction (VOCs, SVOCs, Pesticides & PCBs) was met. All of the ICALs met the technical acceptance criteria, i.e., the percent relative standard deviation (%RSDs), minimum relative response factors (RRFs), retention time windows, chromatographic resolutions, percent endrin and 4,4'-DDT breakdown (Pesticides only) for all target compounds and surrogates with the following exceptions:

  VOCs (4/26/08, instrument B-5973 GC/MS)
  - The %RSD of 1,2,3-Trichlorobenzene exceeded the 30% QC limit. The recalculation of %RSD indicated that the instrument was not linear at the low end. This Compound was not detected in any of the associated samples at or above the CRQL and would be qualified as J/UJ.

None of the SVOC, Pesticide or PCB results was qualified on the basis of ICAL analyses.

Continuing Calibration Verification (CCV)

The frequency of analysis of CCV checks, chromatographic resolution, percent differences (%Ds) between the mean and daily response (calibration) factors, minimum response factors, retention time shifts and percent DDT and endrin breakdowns (Pesticide & PCB analyses) were met by all target compounds and surrogates. The recoveries of the SVOC, Pesticide & PCB standard mixtures were within the control limits. None of the SVOC, Pesticide and PCB data was qualified on this basis.

All of the volatile CCV checks met the criteria for frequency of analysis, the SOW specified, minimum RRFs and %D as compared to the initial calibration with the exception of the following:

Date/Time of Analysis/ Inst.	Compound	%D	Qualifier Detect/Non-detect	Associated Samples
5/7/08 07:26 (opening)	1,2,3-Trichlorobenzene	-29.4	J/UJ	J8JZ1, J8JZ2

Quantitation Limits

The VOC samples were analyzed at the contract required quantitation limits (CRQL). The CRQLs were based on the lowest standard concentration analyzed in the initial calibrations. Target compounds that were detected at concentrations less than the QLs were qualified as estimated, "J". Trace level of common contaminants detected in the samples at concentration < CRQL were qualified by the reviewer as non-detects, "U", and reported at the CRQL. All of the reported results were adjusted for sample amount analyzed. When applicable, all of the "B", "J", "D", "S" and "E" qualifiers applied by the laboratory were crossed out by the reviewer.

All of the sample runs met the Contract-Required Quantitation Limits (CRQLs). There were no SVOCs detected above the CRQL for all of the samples. Detected Target compounds in the samples at concentrations less than the CRQLs were qualified as estimated, "J". Trace level of common contaminants detected in the samples at concentration < CRQL were qualified by the reviewer as non-detects, "U", and reported at the CRQL.

Single-component pesticides and PCBs detected at concentrations with variability of >30% but were <60% between the primary and confirmatory columns, RTX-CLP and RTX-CLP2, were reported and qualified estimated, "J". Variability >60% were reported as non-detected, "U", at an elevated reporting limits (CRQL) due to chromatographic interferences. When applicable, all of the "J" and "P" qualifiers applied by the laboratory were crossed-out by the reviewer. There were no Pesticide or PCB detected in this SDG.

Blanks

The frequency of analysis of blanks and surrogate recovery criteria were met by all of the blanks analyzed. There were no contaminants found in any of the blanks.

Analytical Sequence - Acceptable

All of the standards, blanks, samples, and QC samples were analyzed in accordance with the SOW specified analytical sequence. The retention times as monitored by the internal standards (VOCs, SVOCs) and surrogates (Pesticides, PCBs) were within the specified RT windows. All of the sample analyses were within an acceptable 12 hour QC period and were bracketed by a technically acceptable CCV check standards. None of the data was qualified on this basis.

Surrogates/Deuterated Monitoring Compound Recoveries

Fourteen deuterated VOCS were spiked in all the samples and QC samples to evaluate laboratory performance. The 14 DMCs and their corresponding recovery acceptance limits are:

"Water"

DMCs	Recovery Limits (%)	DMCs	Recovery Limits (%)
Vinyl chloride -d3 (VCL)	65-131	1,2- Dichloropropane-d6 (DPA)	79-124
Chloroethane-d5 (CLA)	71-131	Toluene-d8 (TOL)	77–121
1,1- Dichloroethene-d2 (DCE)	55-104	trans-1,3-dichloropropene-d4 (TDP)	73-121

2-Butanone-d5 (BUT)	49-155	2-Hexanone-d5 (HEX)	28-135
Chloroform-d (CLF)	78-121	1,4-Dioxane (DXE)	50-150
1,2-Dichloroethane-d4 (DCA)	78-129	1,1,2,2-Tetrachloroethane-d2 (TCA)	73 –125
Benzene-d6 (BEN)	77-124	1,2-dichlorobenzene-d4 (DCZ)	80 –131

All of the water volatile surrogate recoveries met the applicable recovery criteria.

Surrogates or deuterated monitoring compounds (DMCs) are known concentrations of isotope-labeled acid and base/neutral or polynuclear hydrocarbon compounds added to the field and QC samples prior to extraction for SVOC analyses to monitor the laboratory's performance and efficiency during sample processing, extraction and analysis. The following is the list of DMCs/surrogates added to all field and QC samples prior to sample extraction:

DMCs (Water SVOCs)	Recovery Limits (%)	DMCs (Water SVOCs)	Recovery Limits (%)
Phenol-d5 (PHL)	39-106	Dimethylphthalate-d6 (DMP)	47-114
Bis(2-chloroethyl)ether-d8 (BCE)	40-105	Acenapthylene-d8 (ACY)	41-107
2-chlorophenol-d4 (2CP)	41-106	4-Nitrophenol-d4 (4NP)	33-116
4-Methylphenol-d8 (4MP)	25-111	Fluorene-d10 (FLR)	42-111
Nitrobenzene-d4 (NBZ)	43-108	4,6-Dinitro-2-methylphenol-d2 (NMP)	22-104
2-Nitrophenol-d4 (2NP)	40-108	Anthracene-d10 (ANC)	44-110
2,4-Dichlorophenol-d3 (DCP)	37-105	Pyrene-d10 (PYR)	52-119
4-Chloroaniline-d4 (4CA)	1-145	Benzo(a)pyrene-d12 (BAP)	32-121

All of the water SVOC surrogate recoveries met the applicable recovery criteria.

DMCs (Water SIM)	Recovery Limits (%)	DMCs (Water SIM)	Recovery Limits (%)
Fluoranthene-d10	50-150	2-Methylnapthalene-d10	50-150

Pesticide/PCB DMCs (both water and soil)	Recovery Limits (%)
Tetrachloro-m-xylene (TCX)	30-150
Decachlorobiphenyl (DCB)	30-150

The recoveries of TCX and DCB were calculated and reported from two separate GC columns used for pesticide and PCB analyses. The TCX and DCB recovery criteria were met for both Pesticides and PCBs. Therefore, none was qualified on this basis.

Matrix Spike/Matrix Spike Duplicate (MS/MSD)

Samples J8JZ1 was designated for MS/MSD analyses for VOC and Pesticide. The percent recovery and percent difference (%RPD) were met for all with the exceptions of the following:

- Volatile: 2 of 5 spiking pair recoveries were higher than the QC limits,
- Pesticide: 1 of 12 spiking compounds was higher than the QC limits.

Since there was no detection of the PCBs in this sample, none was qualified at the discretion of the reviewer.

Internal Standards

VOCs

- The acceptance criteria for internal standards (IS) was within +/- 30 seconds for retention time (RT) shifts and 60% to 140% of the IS area as compared to the IS RT and area of the daily continuing verification standard. All of the analyses met the IS area & RT criteria and none was qualified on this basis.

SVOC

- The acceptance criteria for internal standards (IS) are +/−30 seconds (SVOC/SIM) for retention time (RT) shifts and 50% to 200% (SVOC), -50% to 100% (SIM), IS area as compared to the area of the daily continuing calibration standard. All of the results met the IS area and RT shift criteria and none was qualified on this basis.

Compound Identification - Acceptable

All of the detected target compounds were within the retention time windows. The VOC & the SVOC detections met the USEPA spectral matching criteria and were judged to be acceptable. Likewise, the pesticide/PCB detections were confirmed on a second dissimilar column and were acceptable.

Florisil Cartridge Check - Acceptable

The frequency of analysis and the recovery criteria for florisil used during Pesticides/PCB clean-up were met. None of the data was qualified on this basis.

Gel Permeation Chromatography (GPC) Check – NA

Tentatively Identified Compounds

Chromatographic peaks in the samples' VOC and SVOC runs that are not target compounds, surrogates or internal standards with areas > 10% of the nearest IS must be tentatively identified by the laboratory using a mass

spectral search of the NIST library. The TICs identified by the lab on Form 1s were qualified as tentatively identified at estimated concentrations, "JN", with an unknown bias.

Laboratory Contact

The laboratory was not contacted during this review.

Overall Assessment

The total number of data points evaluated was 217. As the result of the data validation, 0.9% of those were qualified due to calibration.

The data, as qualified, are acceptable and can be used for all purposes.

Data Qualifiers		
	U	The analyte was not detected at or above the reported result.
	J	The analyte was positively identified. The associated numerical result is an estimate.
	UJ	The analyte was not detected at or above the reported estimated result. The associated numerical value is an estimate of the quantitation limit of the analyte in this sample.
	R	The data are unusable for all purposes.
	N	There is evidence the analyte is present in this sample.
	JN	There is evidence that the analyte is present. The associated numerical result is an estimate.

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
J8JZ1

Lab Name: KAP TECHNOLOGIES, INC. Contract: EPW05032

Lab Code: KAP Case No.: 37399 Mod. Ref No.: _____ SDG No.: J8JZ1

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: S-0884.01

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: B15869

Level: (TRACE/LOW/MED) TRACE Date Received: 04/28/2008

% Moisture: not dec. _____ Date Analyzed: 05/07/2008

GC Column: RTX-VMS ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: ____ (uL)

Purge Volume: 25.0 (mL)

CAS No.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U
67-64-1	Acetone	5.0	U
75-15-0	Carbon disulfide	0.50	U
79-20-9	Methyl acetate	0.50	U
75-09-2	Methylene chloride	0.50	U
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl tert-butyl ether	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.50	U
78-93-3	2-Butanone	5.0	U
74-97-5	Bromochloromethane	0.50	U
67-66-3	Chloroform	0.50	U
71-55-6	1,1,1-Trichloroethane	0.50	U
110-82-7	Cyclohexane	0.50	U
56-23-5	Carbon tetrachloride	0.50	U
71-43-2	Benzene	0.50	U
107-06-2	1,2-Dichloroethane	0.50	U

6/4/08

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
J8JZ1

Lab Name: KAP TECHNOLOGIES, INC. Contract: EPW05032

Lab Code: KAP Case No.: 37399 Mod. Ref No.: _____ SDG No.: J8JZ1

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: S-0884.01

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: B15869

Level: (TRACE/LOW/MED) TRACE Date Received: 04/28/2008

% Moisture: not dec. _____ Date Analyzed: 05/07/2008

GC Column: RTX-VMS ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: ____ (uL)

Purge Volume: 25.0 (mL)

CAS No.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
79-01-6	Trichloroethene	0.50	U
108-87-2	Methylcyclohexane	0.50	U
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	0.50	U
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	0.50	U
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
95-47-6	o-Xylene	0.50	U
179601-23-1	m,p-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropylbenzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.50	U
87-61-6	1,2,3-Trichlorobenzene	0.50	UJ

6/14/08

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
J8JZ1

Lab Name: KAP TECHNOLOGIES, INC. Contract: EPW05032

Lab Code: KAP Case No.: 37399 Mod. Ref No.: _____ SDG No.: J8JZ1

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: S-0884.01

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: B15869

Level: (TRACE or LOW/MED) TRACE Date Received: 04/28/2008

% Moisture: not dec. _____ Date Analyzed: 05/07/2008

GC Column: RTX-VMS ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: ____ (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L Purge Volume: 25.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		Unknown-01	10.12	9.2	JBN
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796[1]	Total Alkanes	N/A		

[1] EPA-designated Registry Number.

6/4/08

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
J8JZ2

Lab Name: KAP TECHNOLOGIES, INC. Contract: EPW05032

Lab Code: KAP Case No.: 37399 Mod. Ref No.: _____ SDG No.: J8JZ1

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: S-0884.02

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: B15872

Level: (TRACE/LOW/MED) TRACE Date Received: 04/28/2008

% Moisture: not dec. _____ Date Analyzed: 05/07/2008

GC Column: RTX-VMS ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: ____ (uL)

Purge Volume: 25.0 (mL)

CAS No.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U
67-64-1	Acetone	5.0	U
75-15-0	Carbon disulfide	0.50	U
79-20-9	Methyl acetate	0.50	U
75-09-2	Methylene chloride	0.50	U
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl tert-butyl ether	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.50	U
78-93-3	2-Butanone	5.0	U
74-97-5	Bromochloromethane	0.50	U
67-66-3	Chloroform	0.50	U
71-55-6	1,1,1-Trichloroethane	0.50	U
110-82-7	Cyclohexane	0.50	U
56-23-5	Carbon tetrachloride	0.50	U
71-43-2	Benzene	0.50	U
107-06-2	1,2-Dichloroethane	0.50	U

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
J8JZ2

Lab Name: KAP TECHNOLOGIES, INC. Contract: EPW05032

Lab Code: KAP Case No.: 37399 Mod. Ref No.: _____ SDG No.: J8JZ1

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: S-0884.02

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: B15872

Level: (TRACE/LOW/MED) TRACE Date Received: 04/28/2008

% Moisture: not dec. _____ Date Analyzed: 05/07/2008

GC Column: RTX-VMS ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: ____ (uL)

Purge Volume: 25.0 (mL)

CAS No.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
79-01-6	Trichloroethene	0.50	U
108-87-2	Methylcyclohexane	0.50	U
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	0.50	U
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	0.50	U
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
95-47-6	o-Xylene	0.50	U
179601-23-1	m,p-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropylbenzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.50	U
87-61-6	1,2,3-Trichlorobenzene	0.50	UJ

6/4/08

1J - FORM I VOA-TIC
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
J8JZ2

Lab Name: KAP TECHNOLOGIES, INC. Contract: EPW05032

Lab Code: KAP Case No.: 37399 Mod. Ref No.: _____ SDG No.: J8JZ1

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: S-0884.02

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: B15872

Level: (TRACE or LOW/MED) TRACE Date Received: 04/28/2008

% Moisture: not dec. _____ Date Analyzed: 05/07/2008

GC Column: RTX-VMS ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: ____ (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L Purge Volume: 25.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		Unknown-01	10.12	7.0	JBN
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796[1]	Total Alkanes	N/A		

[1] EPA-designated Registry Number.

6/4/08

1D - FORM I SV-1

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

J8JZ1

Lab Name: KAP TECHNOLOGIES, INC. Contract: EPW05032

Lab Code: KAP Case No.: 37399 Mod. Ref No.: _____ SDG No.: J8JZ1

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: S-0884.01

Sample wt/vol: 1000 (g/mL) ML Lab File ID: F25537

Level: (LOW/MED) LOW Extraction: (Type) CONT

% Moisture: _____ Decanted: (Y/N) N Date Received: 04/28/2008

Concentrated Extract Volume: 1000 (uL) Date Extracted: 04/28/2008

Injection Volume: 1.0 (uL) GPC Factor: _____ Date Analyzed: 05/10/2008

GPC Cleanup: (Y/N) N pH: 6.1 Dilution Factor: 1.0

CAS No.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
100-52-7	Benzaldehyde	5.0	U
108-95-2	Phenol	5.0	U
111-44-4	Bis(2-chloroethyl)ether	5.0	U
95-57-8	2-Chlorophenol	5.0	U
95-48-7	2-Methylphenol	5.0	U
108-60-1	2,2'-Oxybis(1-chloropropane)	5.0	U
98-86-2	Acetophenone	5.0	U
106-44-5	4-Methylphenol	5.0	U
621-64-7	N-Nitroso-di-n-propylamine	5.0	U
67-72-1	Hexachloroethane	5.0	U
98-95-3	Nitrobenzene	5.0	U
78-59-1	Isophorone	5.0	U
88-75-5	2-Nitrophenol	5.0	U
105-67-9	2,4-Dimethylphenol	5.0	U
111-91-1	Bis(2-chloroethoxy)methane	5.0	U
120-83-2	2,4-Dichlorophenol	5.0	U
91-20-3	Naphthalene	5.0	U
106-47-8	4-Chloroaniline	5.0	U
87-68-3	Hexachlorobutadiene	5.0	U
105-60-2	Caprolactam	5.0	U
59-50-7	4-Chloro-3-methylphenol	5.0	U
91-57-6	2-Methylnaphthalene	5.0	U
77-47-4	Hexachlorocyclopentadiene	5.0	U
88-06-2	2,4,6-Trichlorophenol	5.0	U
95-95-4	2,4,5-Trichlorophenol	5.0	U
92-52-4	1,1'-Biphenyl	5.0	U
91-58-7	2-Chloronaphthalene	5.0	U
88-74-4	2-Nitroaniline	10	U
131-11-3	Dimethylphthalate	5.0	U
606-20-2	2,6-Dinitrotoluene	5.0	U
208-96-8	Acenaphthylene	5.0	U
99-09-2	3-Nitroaniline	10	U
83-32-9	Acenaphthene	5.0	U

6/4/08

1E - FORM I SV-2

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

J8JZ1

Lab Name: KAP TECHNOLOGIES, INC. Contract: EPW05032

Lab Code: KAP Case No.: 37399 Mod. Ref No.: _____ SDG No.: J8JZ1

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: S-0884.01

Sample wt/vol: 1000 (g/mL) ML Lab File ID: F25537

Level: (LOW/MED) LOW Extraction: (Type) CONT

% Moisture: _____ Decanted: (Y/N) N Date Received: 04/28/2008

Concentrated Extract Volume: 1000 (uL) Date Extracted: 04/28/2008

Injection Volume: 1.0 (uL) GPC Factor: _____ Date Analyzed: 05/10/2008

GPC Cleanup: (Y/N) N pH: 6.1 Dilution Factor: 1.0

CAS No.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
51-28-5	2,4-Dinitrophenol	10	U
100-02-7	4-Nitrophenol	10	U
132-64-9	Dibenzofuran	5.0	U
121-14-2	2,4-Dinitrotoluene	5.0	U
84-66-2	Diethylphthalate	5.0	U
86-73-7	Fluorene	5.0	U
7005-72-3	4-Chlorophenyl-phenylether	5.0	U
100-01-6	4-Nitroaniline	10	U
534-52-1	4,6-Dinitro-2-methylphenol	10	U
86-30-6	N-Nitrosodiphenylamine 1	5.0	U
95-94-3	1,2,4,5-Tetrachlorobenzene	5.0	U
101-55-3	4-Bromophenyl-phenylether	5.0	U
118-74-1	Hexachlorobenzene	5.0	U
1912-24-9	Atrazine	5.0	U
87-86-5	Pentachlorophenol	10	U
85-01-8	Phenanthrene	5.0	U
120-12-7	Anthracene	5.0	U
86-74-8	Carbazole	5.0	U
84-74-2	Di-n-butylphthalate	5.0	U
206-44-0	Fluoranthene	5.0	U
129-00-0	Pyrene	5.0	U
85-68-7	Butylbenzylphthalate	5.0	U
91-94-1	3,3'-Dichlorobenzidine	5.0	U
56-55-3	Benzo(a)anthracene	5.0	U
218-01-9	Chrysene	5.0	U
117-81-7	Bis(2-ethylhexyl)phthalate	5.0	U
117-84-0	Di-n-octylphthalate	5.0	U
205-99-2	Benzo(b)fluoranthene	5.0	U
207-08-9	Benzo(k)fluoranthene	5.0	U
50-32-8	Benzo(a)pyrene	5.0	U
193-39-5	Indeno(1,2,3-cd)pyrene	5.0	U
53-70-3	Dibenzo(a,h)anthracene	5.0	U
191-24-2	Benzo(g,h,i)perylene	5.0	U
58-90-2	2,3,4,6-Tetrachlorophenol	5.0	U

1 Cannot be separated from Diphenylamine

6/4/08

1K - FORM I SV-TIC

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

J8JZ1

Lab Name: KAP TECHNOLOGIES, INC. Contract: EPW05032

Lab Code: KAP Case No.: 37399 Mod. Ref No.: _____ SDG No.: J8JZ1

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: S-0884.01

Sample wt/vol: 1000 (g/mL) ML Lab File ID: F25537

Level: (LOW/MED) LOW Extraction: (Type) CONT

% Moisture: _____ Decanted: (Y/N) N Date Received: 04/28/2008

Concentrated Extract Volume: 1000 (uL) Date Extracted: 04/28/2008

Injection Volume: 1.0 (uL) Date Analyzed: 05/10/2008

GPC Cleanup: (Y/N) N pH: 6.1 Dilution Factor: 1.0

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		Unknown-01	15.94	2.2	JN
02		Unknown-02	17.08	2.2	JN
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796[2]	Total Alkanes	N/A		

[2] EPA-designated Registry Number.

6/4/08

1F - FORM I SV-SIM
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
J8JZ1

Lab Name: KAP TECHNOLOGIES, INC. Contract: EPW05032

Lab Code: KAP Case No.: 37399 Mod. Ref No.: _____ SDG No.: J8JZ1

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: S-0884.01

Sample wt/vol: 1000 (g/mL) ML Lab File ID: G0207

Extraction: (Type) CONT

% Moisture: _____ Decanted: (Y/N) N Date Received: 04/28/2008

Concentrated Extract Volume: 1000 (uL) Date Extracted: 04/28/2008

Injection Volume: 1.0 (uL) GPC Factor: _____ Date Analyzed: 05/17/2008

GPC Cleanup: (Y/N) N pH: 6.1 Dilution Factor: 1.0

CAS No.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
91-20-3	Naphthalene	0.10	U
91-57-6	2-Methylnaphthalene	0.10	U
208-96-8	Acenaphthylene	0.10	U
83-32-9	Acenaphthene	0.10	U
86-73-7	Fluorene	0.10	U
87-86-5	Pentachlorophenol	0.20	U
85-01-8	Phenanthrene	0.10	U
120-12-7	Anthracene	0.10	U
206-44-0	Fluoranthene	0.10	U
129-00-0	Pyrene	0.10	U
56-55-3	Benzo(a)anthracene	0.10	U
218-01-9	Chrysene	0.10	U
205-99-2	Benzo(b)fluoranthene	0.10	U
207-08-9	Benzo(k)fluoranthene	0.10	U
50-32-8	Benzo(a)pyrene	0.10	U
193-39-5	Indeno(1,2,3-cd)pyrene	0.10	U
53-70-3	Dibenzo(a,h)anthracene	0.10	U
191-24-2	Benzo(g,h,i)perylene	0.10	U

1 Cannot be separated from Diphenylamine

6/4/08

1G - FORM I PEST

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

J8JZ1

Lab Name: KAP TECHNOLOGIES, INC. Contract: EPW05032

Lab Code: KAP Case No.: 37399 Mod. Ref No.: _____ SDG No.: J8JZ1

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: S-0884.01

Sample wt/vol: 1000 (g/mL) ML Lab File ID: A10345

% Moisture: _____ Decanted: (Y/N) N Date Received: 04/28/2008

Extraction: (Type) SEPF Date Extracted: 04/28/2008

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 05/12/2008

Injection Volume: 1.0 (uL) GPC Factor: _____ Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) N

CAS No.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
319-84-6	alpha-BHC	0.050	U
319-85-7	beta-BHC	0.050	U
319-86-8	delta-BHC	0.050	U
58-89-9	gamma-BHC (Lindane)	0.050	U
76-44-8	Heptachlor	0.050	U
309-00-2	Aldrin	0.050	U
1024-57-3	Heptachlor epoxide	0.050	U
959-98-8	Endosulfan I	0.050	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin ketone	0.10	U
7421-93-4	Endrin aldehyde	0.10	U
5103-71-9	alpha-Chlordane	0.050	U
5103-74-2	gamma-Chlordane	0.050	U
8001-35-2	Toxaphene	5.0	U

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

J8JZ1

Lab Name: KAP TECHNOLOGIES, INC. Contract: EPW05032

Lab Code: KAP Case No.: 37399 Mod Ref No.: _____ SDG No.: J8JZ1

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: S-0884.01

Sample wt/vol: 1000 (g/mL) ML Lab File ID: P17678

% Moisture: _____ Decanted: (Y/N) N Date Received: 04/28/2008

Extraction: (Type) SEPF Date Extracted: 04/28/2008

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 05/07/2008

Injection Volume: 1.0 (uL) GPC Factor: _____ Dilution Fact 1.0

GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) N

Acid Cleanup: (Y/N) Y

CAS No.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
12674-11-2	Aroclor-1016	1.0	U
11104-28-2	Aroclor-1221	1.0	U
11141-16-5	Aroclor-1232	1.0	U
53469-21-9	Aroclor-1242	1.0	U
12672-29-6	Aroclor-1248	1.0	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U
37324-23-5	Aroclor-1262	1.0	U
11100-14-4	Aroclor-1268	1.0	U

6/5/08